

REMARKS

Claims 1-5 and 9-18 are currently pending in the application. Claims 1 and 3-5 have been amended to clarify the invention. New claims 9-18 have been added.

Claims 1-5 remain rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement and the written description requirement. Applicants respectfully request withdrawal of the rejection, as claim 1 has been amended.

Applicants submit that claims 1-5 are patentable over Fujita, as Fujita fails to disclose or suggest the subject matter of currently amended independent claim 1.

Fujita is based on the assumption that optical signals do not change while they are swept even though the time at which the peak level is detected and the time at which the background light level is detected are usually different. The determination of whether the change is caused by either the loss of the transmission path or the change in wavelength number needs to be performed using the same optical signals at a time. The "sweeping" is not suitable for the determination.

In the present invention, the light power of a specific wavelength of the input or output optical signals which are not filtered is measured "through a filter." The input optical signal (Fig. 8 and 13), the output optical signal (Fig. 10 and 14), or the input and output optical signals (Fig. 15 and 16) are split. A fraction of the input signal (which is split and transmitted through a filter wherein the filtered fraction has a specific wavelength) and another fraction of the input signal (which is split but is not transmitted through any filter) are compared at a time. The comparison allows the determination of whether the change is caused by either the loss of the transmission path or the change in wavelength number as described on page 14, lines 15-20.

According to Fujita, the transmission wavelength of the tunable wavelength filter 30 is swept by the sweeper 40, and the peak detection units 60 and 70 detect the peak level and the background light level (column 4, line 64 – column 5, line 7).

The present invention is different from Fujita in that the input optical signals which are not filtered are split by the optical splitter 11, and a fraction of the photo signal is filtered by the fixed optical filter 51. The filtered fraction of the photo signal is measured for the signal level of the photo signal of the specific wavelength by the photo diode 31 and the (another fraction of) photo signal is measured from the total power by the photo diode 32 (see fig. 8 and page 12, lines 8-14 of the present invention).

According to Fujita, the transmission wavelength is filtered by the tunable wavelength filter 30 whereas, according to the present invention, the input optical signals are not filtered. Further, according to Fujita, the transmission wavelength is swept to measure the peak level (60) and the background light level (70). The present invention is also different from Fujita in that the present invention can measure the signal level of the photo signal of the specific wavelength (31) and the total power (32) at a particular time.

Applicants respectfully submit that independent claims 9 and 14 are patentable over the reference for at least the reasons presented above, as the new independent claims recite language similar to that of independent claim 1. As dependent claims 10-13 and 15-18 depend from respective independent claims, the dependent claims are patentable over the reference for at least the reasons presented for the independent claims.

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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